CHAMPLAIN HUDSON POWER EXPRESS PROJECT

COMPARISON OF ALTERNATIVE CONVERTER STATION SITES

FEBRUARY 6, 2012

EXECUTIVE SUMMARY

The Applicants were asked to evaluate three potential converter station locations in the City of Yonkers ("Yonkers Site"), the Bronx ("Harlem River Yard Site"), and Astoria, Queens ("Luyster Creek Site"). All three sites are located in developed areas and would be similar in terms of their overall construction. As would be expected given these similarities, there do not appear to be any significant differences between these three sites in terms of on-site impacts on vegetation, wetlands, wildlife, cultural resources, visual resources, noise levels, and public health.

All three sites have long histories of development. As such, contaminated soils are a known concern at the Harlem River Yard Site and Luyster Creek Site. The Applicants are not aware of any field investigations that have been completed for the Yonkers Site and the property is currently used as a parking lot. However, it is likely that some level of contamination exists at this site as well given its history of development.

While the Harlem River Yard Site is zoned appropriately for the converter station, the NYSDOT owns the property and has determined that it should be preserved intact for future rail development. As a result, this site is not available to the Applicants at this time. The Yonkers Site was re-zoned by amendment of the Zoning Code of the City of Yonkers in December, 2011, which results in the converter station being a non-conforming use at this site. For the Yonkers Site and Luyster Creek Site, the primary differences are the in-water cable requirements and existing land use plans. To construct a converter station at the Yonkers Site, the Applicants would have to install approximately 11 miles of double circuit HVAC cables through the Hudson, Harlem and East Rivers installed in two trenches with a separation distance of 33 feet. In contrast, the Harlem River Yard and the Luyster Creek sites would not require any in-water installation of HVAC cables and so only two HVDC cables in a single trench would be required from Yonkers to the Bronx for these two sites. While there are no long-term impacts anticipated with the in-water HVAC cables, the selection of either the Harlem River Yard or the Luyster Creek sites would reduce the temporary impacts associated with the Project.

More significantly, there are concerns over whether the installation and operation of a converter station at the Yonkers Site represents the "best use" of this land. A converter station at the Yonkers Site would not be fully consistent with existing land use controls, plans and policies, and it would displace existing parking for public offices; stakeholders have focused on the potential for developing this section of Yonkers for commercial and recreational uses. There may also be issues related to transporting large equipment and materials to the site. The Harlem River Yard Site is zoned appropriately for the converter station, but the NYSDOT, owner of the property, has determined that it should be preserved intact for future rail development. In contrast, the Luyster Creek Site would be located on a portion of a privately owned parcel which has been utilized for utility-related land uses for a considerable period of time. The site is separated from pedestrian traffic by security fencing and ambient noise levels are generally higher than those reported at the Yonkers Site. In addition, existing information suggests that the Luyster Creek Site minimizes conflict with any present or planned land use.

The Applicants believe that each of these sites would be suitable locations for the converter station associated with the Project. However, there is support for the view that the overall environmental impacts may be reduced by the selection of the Harlem River Yard or Luyster

Creek sites and the operation of a converter station would be most consistent with the known and planned uses of the Luyster Creek Site, particularly as the Applicants cannot use the Harlem River Yard Site without NYSDOT's consent.

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In March of 2010, Champlain Hudson Power Express, Inc. and CHPE Properties, Inc. (collectively, the "Applicants") submitted an "Application for a Certificate of Environmental Compatibility and Public Need" ("Application") for the Champlain Hudson Power Express project ("Project"). The Project included the construction of a five-acre converter station site on Wells Avenue in Yonkers, New York. On October 27, 2011, the New York State Department of Public Service ("NYSDPS") identified an alternative converter station site in the Bronx that was located on vacant land controlled by the New York State Department of Transportation ("NYSDOT"). Additionally, as part of confidential settlement discussions, an additional potential site was identified in Astoria on land owned by Consolidated Edison of New York, Inc. ("Con Edison"), which had previously been offered for sale and was adjacent to the proposed Point-of-Interconnection, the Astoria Annex substation. This report provides a comparative analysis of these three potential converter station sites.

1.0 SITE DESCRIPTIONS

Yonkers Converter Station, City of Yonkers, New York

The Yonkers, New York converter station site ("Yonkers Site") is located at Wells Avenue in the City of Yonkers, NY and is situation between Alexander Street and Woodworth Avenue (see Figure 1-1). While the property is not immediately adjacent to the Hudson River, the Applicants determined that a horizontal directional drill ("HDD") could be utilized to install the high voltage direct current ("HVDC") and high voltage alternating current ("HVAC") cables beneath the existing infrastructure and land uses from the site to the Hudson River. Approximately 11 miles of double circuit HVAC cables would need to be installed from the Yonkers Site through the Hudson and Harlem Rivers, then laid in an existing railroad ROW and across the East River to the Astoria Annex Substation. Figure 1-2 provides a conceptual layout of the facility.

Harlem River Yard Converter Station, Bronx, New York City, New York

NYSDPS identified the Harlem River Yard Site and the Hell Gate Bypass route segment in the Bronx as alternatives in its October 27, 2010 letter to the Administrative Law Judges. The Harlem River Yard Site is located at the north side of the Bronx Kill west of the Robert F. Kennedy Bridge on a vacant lot (see Figure 1-3). While New York City (NYC) records report the site as owned by the NYC Department of General Services, the property has since been identified as being owned by the NYSDOT, which refers to the property as the Harlem River Yard. The HVDC cables would connect to the property along the Hell Gate Bypass. HVAC cables would be laid within the existing CSX Railroad right-of-way ("ROW") and installed across the East River to the property where the Astoria Annex is located. Figure 1-4 provides a conceptual layout of the facility.

Luyster Creek Converter Station, Astoria, Queens, New York City, New York

In searching for other alternative locations for the Project's converter station, the Applicants learned that Con Edison had agreed to transfer a portion of the parcel, which contains the

proposed project interconnection at the Astoria Annex substation, to a private entity for a development project. The subdivision included land to the west of Luyster Creek and north east of 20th Avenue (see Figure 1-5) ("Luyster Creek Site"). As with the Harlem River Yard Site, HVDC cables would exit the Harlem River via the Hell Gate Bypass and be laid within and along the existing CSX railroad ROW. The cables would then cross under the Harlem River to the property where the Astoria Annex substation is located. Figure 1-6 provides a conceptual layout of the facility.

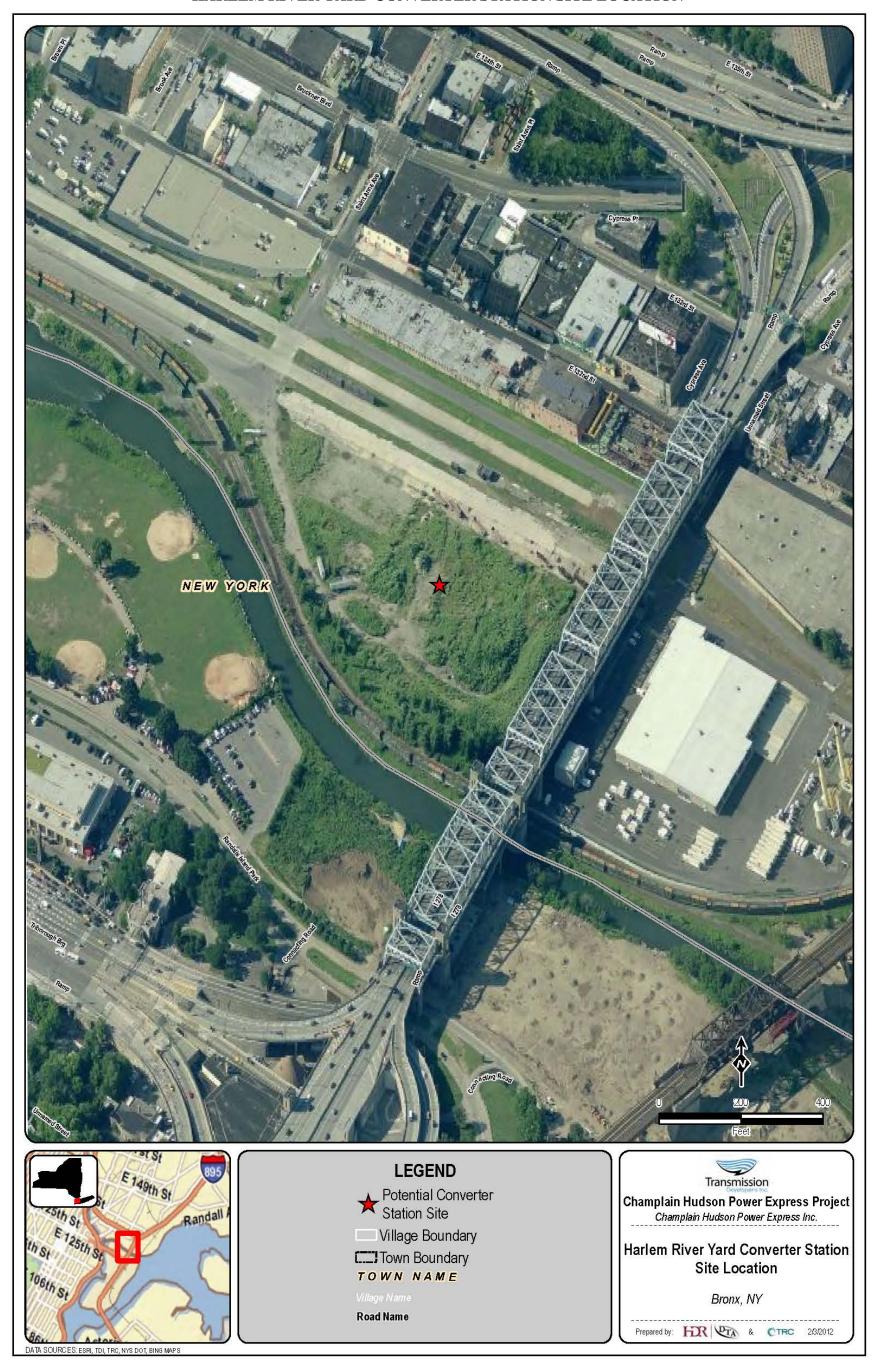
FIGURE 1-1 YONKERS CONVERTER STATION SITE LOCATION



FIGURE 1-2 YONKERS SITE CONCEPTUAL LAYOUT



FIGURE 1-3 HARLEM RIVER YARD CONVERTER STATION SITE LOCATION



Designed Drawn Approved Date By Ck PE PE# Transmission Champlain-Hudson Power Express Project Champlain-Hudson Power Express Inc. BRONX HVDC OPTION Sheet 1 of CONFIDENTIAL DOCUMENT FOR SETTLEMENT DISCUSSIONS PURSUANT TO COMMISSION'S SETTLEMENT GUIDELINES **IMAGERY DATE JUNE 2, 2011** Prepared by: HDR | VTA & CTRC 02/03/2012

FIGURE 1-4 HARLEM RIVER YARD SITE CONCEPTUAL LAYOUT

FIGURE 1-5 LUYSTER CREEK CONVERTER STATION SITE LOCATION

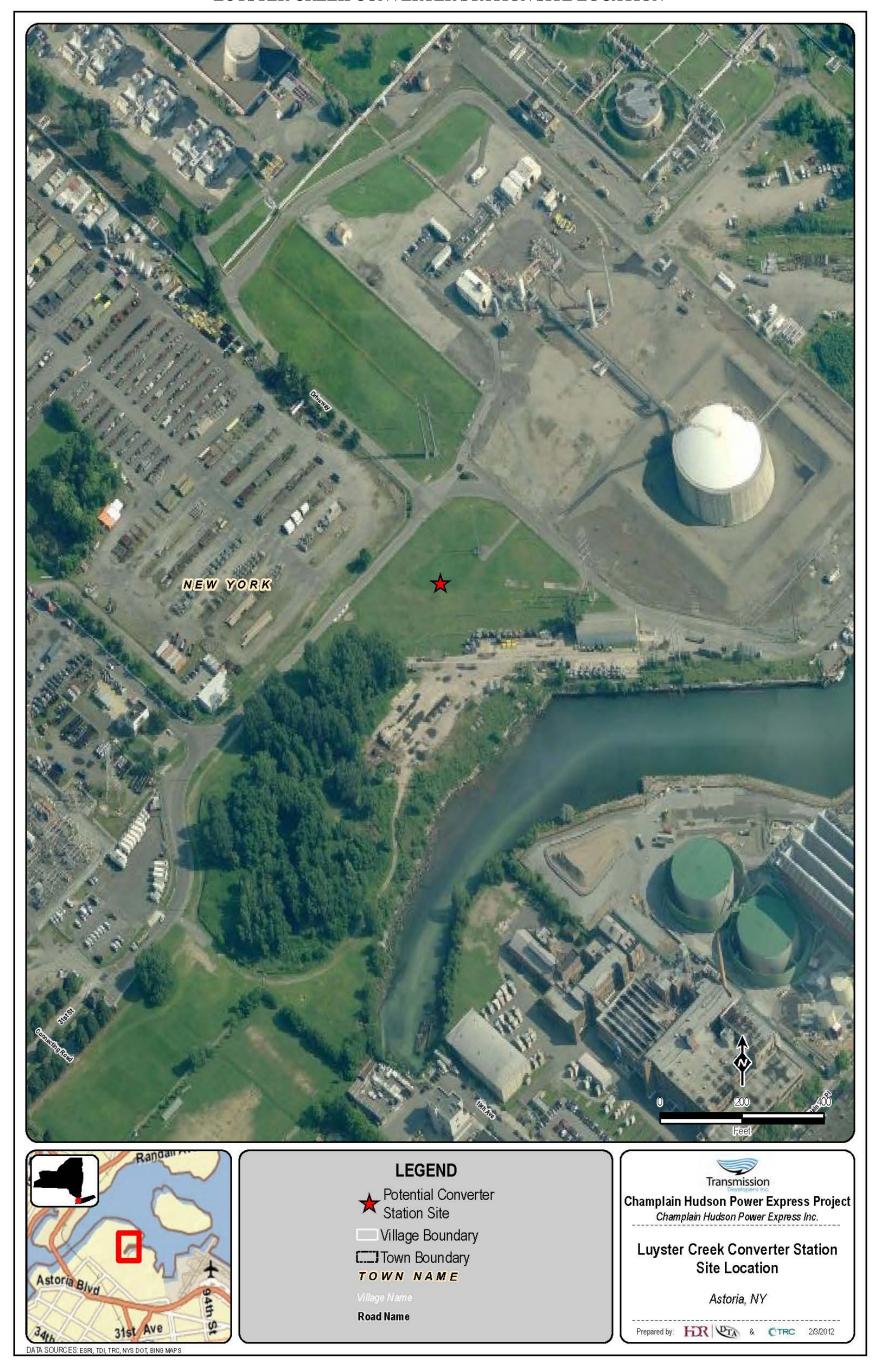
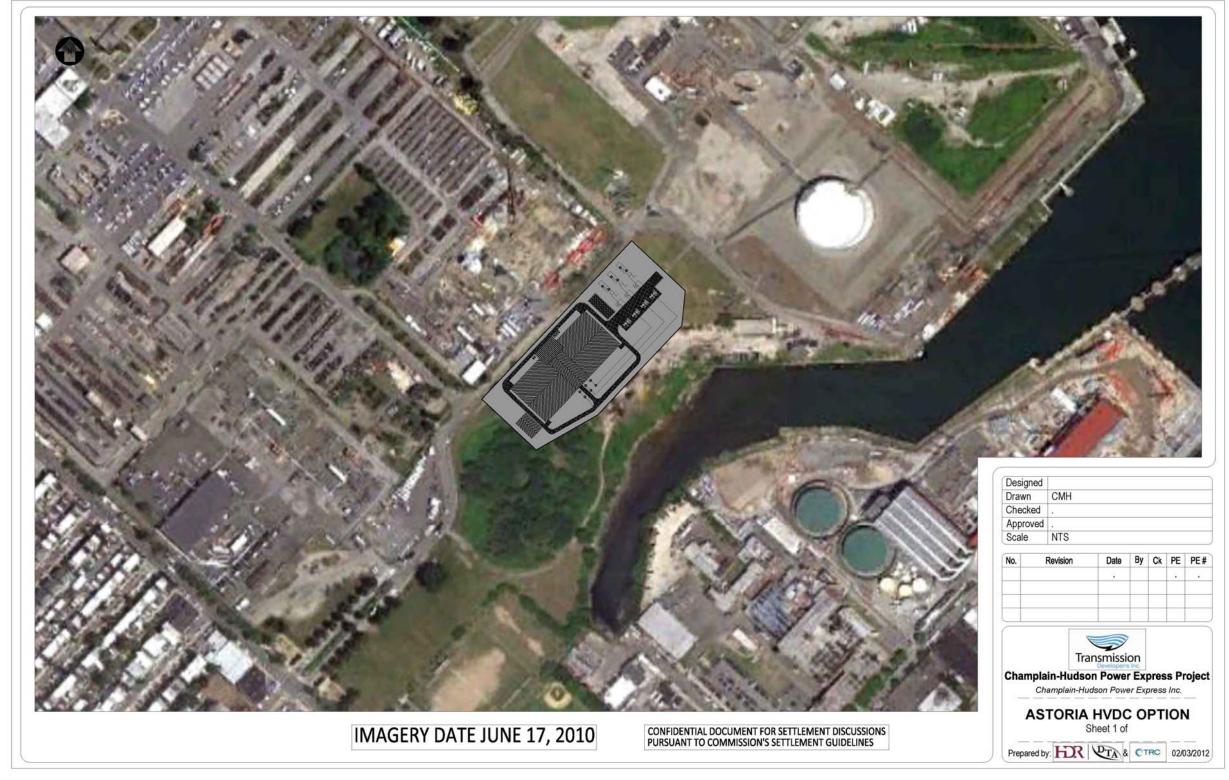


FIGURE 1-6 LUYSTER CREEK SITE CONCEPTUAL LAYOUT



February 2012

2.0 ZONING, LAND USE, and PLAN CONSISTENCY

2.1 Existing Land Use

The following sections summarize the existing land uses at each of the three alternative locations.

2.1.1 Yonkers Site

The landfall for the proposed Yonkers Site is located near Wells Street and Alexander Street in the City of Yonkers. The properties comprising the site were recently re-zoned by adoption of a Downtown Zoning Resolution as D-IRT (office, industrial, research and development and technology-based uses) and D-MX (mixed commercial, residential and institutional uses)¹, which are not generally consistent with the proposed land use of the Project. As originally configured, use of the Yonkers site would require that the Commission grant a waiver of allowed uses in the D-MX district. The land use in the general vicinity of the proposed converter station is largely commercial/industrial with some office buildings, and includes the Metropolitan Transportation Authority (MTA) Amtrak rail line and Yonkers Amtrak/Metro-North Station (west of site) and the Kawasaki Rail Car, Inc. (directly east). Figure 2-1 shows land use mapping based on readily available data in the New York State Geographic Information System (GIS) Clearinghouse (2004). Hudson Park Apartments, which is adjacent to Esplanade Park along the Hudson River waterfront, is within walking distance at approximately 1,000 feet. Concentrated residential areas begin approximately 1,320 feet from the converter station sites and Habirshaw, Larkin, and Pitkin Parks are also within relatively close proximity to the converter station site.

2.1.2 Harlem River Yard Site

The proposed location of the Harlem River Yard Site is zoned M3-1 and M2-1, for heavy manufacturing-industrial uses in an area of existing transportation and utility uses (see Figure 2-2 for readily available land use mapping). The property is bordered to the north by E 132 Street, beyond which is a mixed use area. Residential zoning begins at E 134 Street. Randall's Island, providing public park uses, is located to the south of the property line on the south side of the Bronx Kill.

2.1.3 Luyster Creek Site

The proposed location for the Luyster Creek Site is on a parcel with existing utility facilities and is zoned M3-1 for heavy manufacturing-industrial uses. The proposed use would be consistent with nearby existing uses of the property. Nearby land use is primarily industrial in nature, with open water immediately to the east of the proposed site (see Figure 2-3 for readily available land use mapping). Residential properties are located to the south-west of 20th Avenue, which is located over 1,200 feet from the proposed converter station location.

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General Ordinance No. _ Of 2011; A General Ordinance Amending Chapter 43 Of The Zoning Code Of The City Of Yonkers In Regard To The Rezoning Of Downtown Yonkers, adopted December 15, 2011.

2.2 Consistency with State and Local Land Use Plans and Policies

The following is a summary of land use planning in the vicinity of the alternative.

2.2.1 Yonkers Site

The Application (Section 4.2.2.6) evaluated the consistency of the installation and operation of the Yonkers converter station site with the land use goals and objectives as reported at the time the Application was developed, including:

- Westchester Open Space Plan
- Westchester Urban County Consortium Consolidated Plan
- Yonkers Alexander Street Master Plan
- *Alexander Street Urban Renewal Plan*
- Yonkers Alexander Street Brownfield Development Plan
- City of Yonkers 5 Year Consolidated Plan

The analysis presented in the Application concluded that, as the Yonkers Site would be separated from the waterfront by railroad tracks and other uses, it would not interfere with potential waterfront uses and that the preservation of the site in its existing use as a parking lot would not assist in preserving open space, recreation, environmental resources, or historic resources. While the Yonkers Alexander Street Master Plan anticipates that the general area will be converted to predominantly residential, it does discuss infrastructure or electricity needs or prohibit other types of uses such as this proposed infrastructure project (i.e., the plan does not discuss infrastructure or electricity needs). The Alexander Street Urban Renewal Plan shows the site of the proposed Project as zoned industrial and the proposed conversion of the site from parking to a converter station appears to address this plan's need for better utilization of this area. Accordingly, the Applicants concluded that the Project was not inconsistent with the objectives of these plans.

The 2012 Rezoning of Downtown Yonkers was proposed and adopted subsequent to the analysis presented in the Application. The amendments to Chapter 43 of the Zoning Code of the City of Yonkers represent a re-visioning of the future development in the core downtown area, including the formerly proposed converter station site. The map of Downtown Districts adopted by the Rezoning as Article XVIII indicates that the formerly proposed site is now located within two districts: D-MX, or Downtown Mixed-Use district; and D-IRT, or Downtown Industrial Research and Technology District (See Figure 2-4).

The amended Zoning Code states that:

The D-MX Mixed-Use District is a high concentration of commercial, residential and institutional developments in the Downtown. The D-MX District encourages ground floor commercial uses to activate the street level environment, and

The D-IRT District supports the industrial uses in the northern portion of Downtown. This district with its close proximity to the Metro North and Amtrak train lines is a prime location for office, industrial, research and development and

technology-based uses. It also allows certain commercial uses to serve the work force. Residential uses are prohibited to avoid conflicts with industrial users and encroachment into industrial land.

The Schedule of Uses for the D-MX district does not allow "Utility Substations" but does allow "Light Industrial" uses. The Schedule of uses for the D-IRT district allows "Utility Substations," "Light Industrial" and "Medium Industrial" uses. To the extent that part of the original proposed converter station site is now within the D-MX district, a waiver of use restrictions would be necessary to site the converter station at this location. There are additional considerations regarding site security, architectural design and façade appearance, location of mechanical equipment, parking spaces, which would warrant consideration in facility layout and design.

FIGURE 2-1
EXISTING LAND USE WITHIN 0.5 MILES OF YONKERS CONVERTER STATION SITE

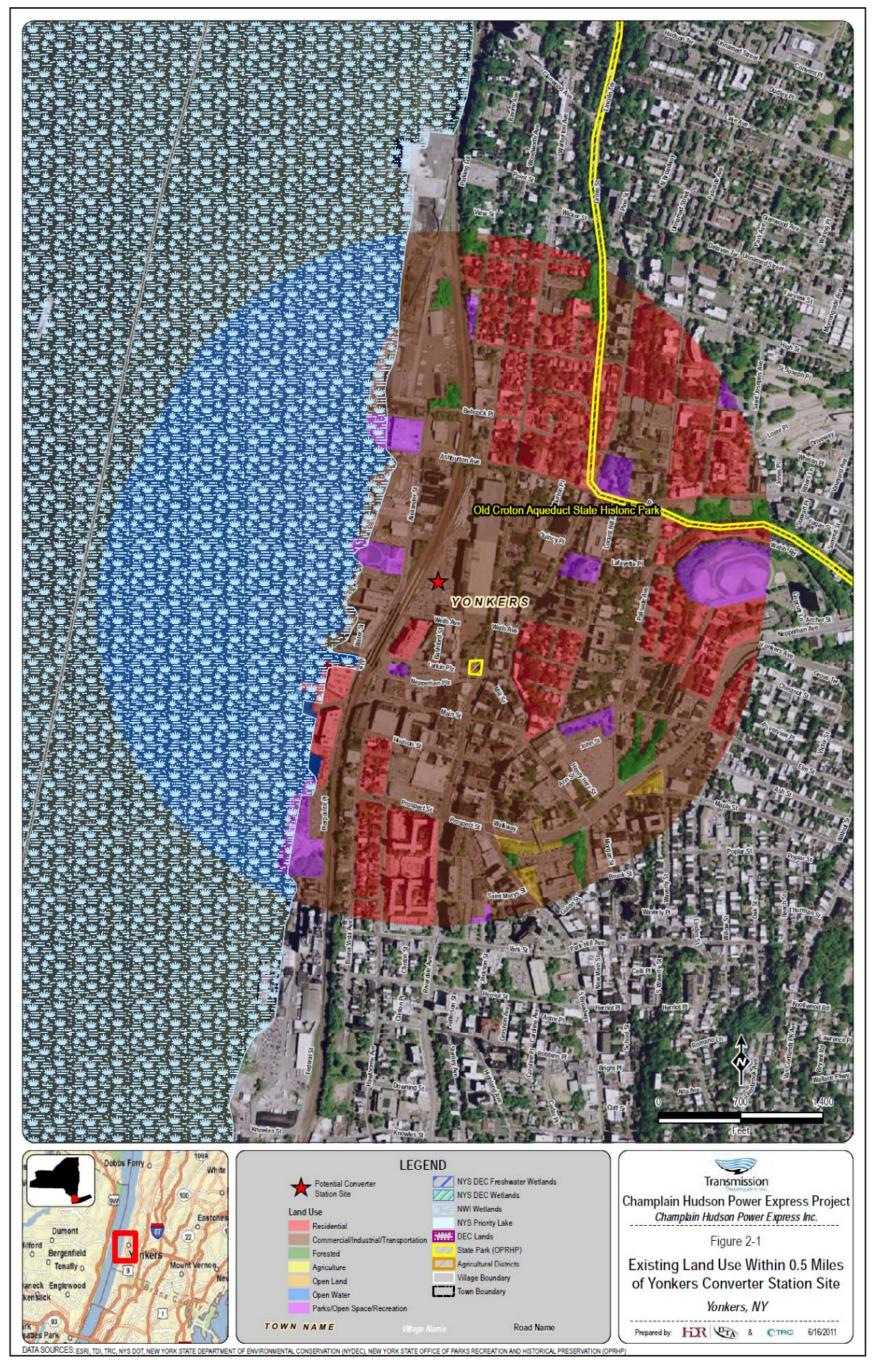


FIGURE 2-2
EXISTING LAND USE WITHIN 0.5 MILES OF HARLEM RIVER YARD CONVERTER STATION SITE

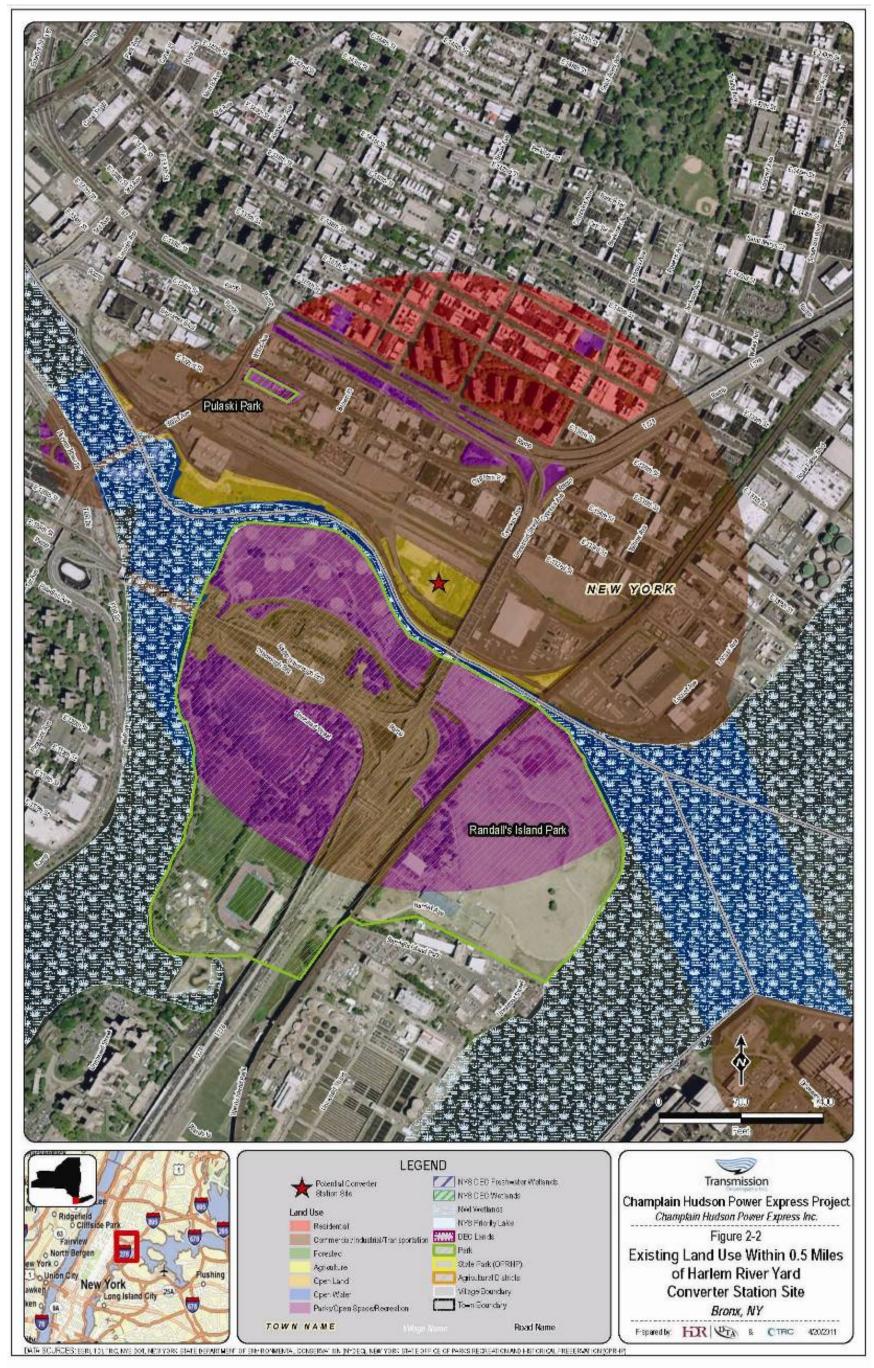
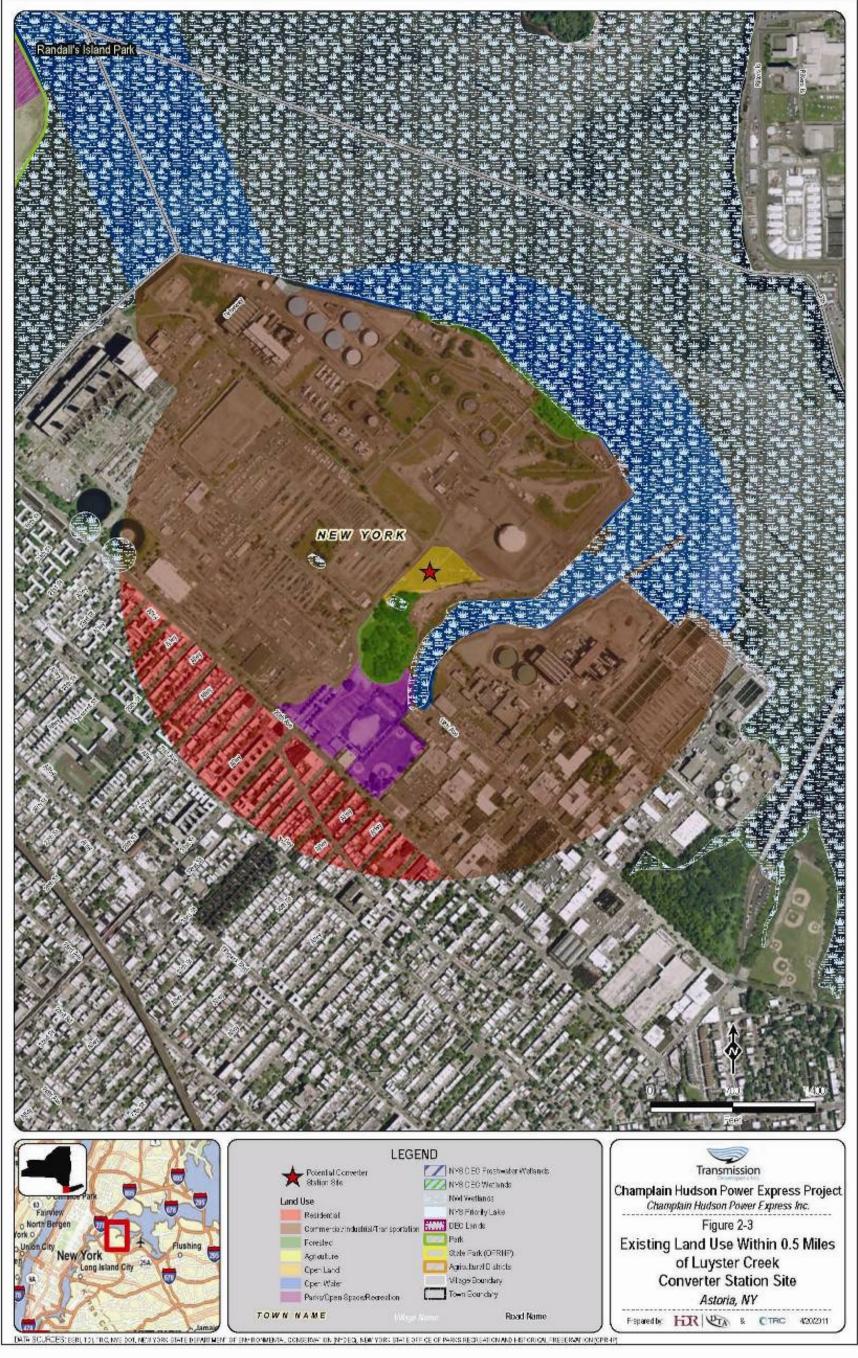


FIGURE 2-3
EXISTING LAND USE WITHIN 0.5 MILES OF LUYSTER CREEK CONVERTER STATION SITE



D-IRT I AFAYETTE I LACE WELLS AVENUE CROMWELL PLACE NEPPERHAN STREET ELM STREET ENGINE PLACE ASH STREET MAPLE STREET UR-LD PUPLAR STREET TERRACEPLACE UR-**UR-HD** MD Districts D-IRT D-MX CELLI PLACE UR-HD HEARIGT STREET UR-MD UR-LD ASTOR PLACE HIGHLAND AVENUE

FIGURE 2-4 CITY OF YONKERS DOWNTOWN ZONING DISTRICTS MAP, ADOPTED 12-15-2011

2.2.2 Harlem River Yard Site

The NYSDOT purchased the property in 1982 and issued a Request for Proposals to have the land "developed and operated as an intermodal transportation facility having a significant rail component." The State Environmental Quality Review Act (SEQR) Record of Decision states that the policy objectives for seeking a private developer were: a) to increase the utilization of rail freight service in the New York City metropolitan area by developing an intermodal rail terminal along with ancillary warehousing and support infrastructure; b) to reduce congestion from truck traffic on Hudson crossings; c) to reduce freight transportation costs through increased competition; and d) to utilize the potential of the Harlem River Yard to enhance economic development and create jobs. The property was leased to Harlem River Yard Ventures in 1991.

This site is analyzed for consistency with New York City land use planning below.

2.2.3 Luyster Creek Site

The Harlem River Yard Site and Luyster Creek Site were evaluated with respect to consistency with the land use goals and objectives of the:

- New York City Comprehensive Waterfront Plan
- New York City Waterfront Revitalization Program

New York City Comprehensive Waterfront Plan

The New York City Comprehensive Waterfront Plan proposed by the Department of City Planning provides a framework to guide land use along the city's entire 578-mile shoreline in a way that recognizes its value as a natural resource and celebrates its diversity. The plan presents a long range vision that balances the needs of environmentally sensitive areas and the working port with opportunities for waterside public access, open space, housing, and commercial activity. The New York City Comprehensive Waterfront Plan identifies the following planning goals with respect to redeveloping the waterfront:

- Promote economic development and enhance the city's tax base by providing opportunities for new uses, including housing for a range of income groups;
- Enliven the waterfront by promoting people-attracting uses, open space, and public access to the waterfront;
- Integrate new development with adjacent upland communities;
- Consider land use, availability of services and infrastructure capacity in determining scale of redevelopment; and
- Promote social and economic diversity on the waterfront.

On March 14, 2011, the City of New York released "Vision 2020: New York City Comprehensive Waterfront Plan", which presents policy goals related to City's 520 miles of shoreline (NYCDCP, 2011). The plan includes city-wide strategies, such as expanding public access and enlivening the waterfront, as well as neighborhood strategies. In terms of the two converter station sites, the goals of note are as follows:

South Bronx

No specific new measures or goals are identified in the vicinity of the Harlem River Yard Site, although enhancing the Bronx Kill habitat and small craft navigability are noted goals.

Queens

In the discussion of potential projects in the Upper East River, the plan states that efforts should be made to "explore street and public access to [Luyster] creek from 19th avenue." More generally, the plan states that the City should continue to implement the Queens East River and North Shore Greenway Plan, explore additional locations to provide signage, and to improve connections between upland neighborhoods and existing publicly accessible waterfront sites with consideration for public safety and security. While the Luyster Creek converter station will not, in and of itself, meet any of these objectives, the Applicants believe there is sufficient space available to locate the converter station so as to not interfere with any of these goals.

New York City Waterfront Revitalization Program

The New York City Waterfront Revitalization Program is the city's principal coastal zone management tool. As originally adopted in 1982, this Local Waterfront Revitalization Program ("LWRP") establishes the city's policies for development and use of the waterfront and provides the framework for evaluating the consistency of all discretionary actions in the coastal zone with those policies. The guiding principle of the LWRP is to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts among these objectives.

Through individual project review, the LWRP aims to promote activities appropriate to various waterfront locations. The program is designed to coordinate activities and decisions affecting the coast when there are overlapping jurisdictions or multiple discretionary actions. The consistency provisions of the CZMA of 1972, as amended, provide the means by which regulatory decision making or the direct actions of local, state and federal agencies are undertaken in a manner that complies, and does not conflict, with the policies and purposes of the State's Coastal Management Program as it is expressed in the City's approved Waterfront Revitalization Program or an approved LWRP. When a proposed project is located within the coastal zone and requires a local, state, or federal discretionary action, a determination of the project's consistency with the policies and purposes of the LWRP shall be made before the action is undertaken.

See Section 2.5.2 for further discussion of the consistency of the Project with LWRPs, including a specific discussion of the applicability of the New York City LWRP's 10 policies.

2.3 State and Local Parks/Public Lands

There are no state or public parks fully accessible recreational lands in the immediate vicinity of either the Yonkers Site or Luyster Creek Site.

There is one local park in the vicinity of the Harlem River Yard Site, the NYC Randall's Island Park. Randall's Island is located between the Harlem River, the Bronx Kill and the East River

between East Harlem, the South Bronx and Astoria, Queens. Randall's Island Park boasts over 60 sports fields, accommodating a variety of sports including baseball, softball, soccer, football, lacrosse, field hockey, and rugby (Randall's Island Sport Foundation 2010). Randall's Island Park is home to the Golf Center, the Sportime Tennis Center, and Icahn Stadium track and field facility.

2.4 Agricultural Districts

The three converter station sites are all located in urban locations at sites historically associated with industrial, transportation or utility uses. According to the data obtained from the Cornell Institute for Resource Information Sciences (Cornell IRIS), which maintains the county-produced Agricultural District maps on file under contract with the New York State Department of Agriculture and Markets, none of the converter station locations is within any designated Agricultural Districts in New York State.

2.5 Coastal Consistency

This section discusses the consistency of the three alternative sites with New York Coastal Zone Management Policies and with Article 42 of the Executive Law entitled: *Waterfront Revitalization of Coastal Areas and Inland Waterways*. Local municipalities that border coastal areas and inland waterways may prepare and adopt LWRPs, in conjunction with the New York State Department of State ("NYSDOS"), for the preservation, enhancement, protection, development, and use of the state's coastal and inland waterways. Projects which may affect the uses and resources of the coastal areas or inland waterways must be reviewed for consistency with the policies and purposes of those municipal LWRPs that may affect, or be affected by, the Project area. This section includes a review of consistency with coastal policies and LWRPs for both the underwater portions of the Project and the underground portions of the Project potentially located in coastal or waterfront areas, such as the cable landfalls and aboveground facilities.

2.5.1 New York Coastal Zone Management Policies

The federal Coastal Zone Management Act of 1972, as amended ("CZMA") requires that each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal area shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs. In New York State, the relevant enforceable polices are those of the New York State Coastal Management Program ("CMP") or those of an approved LWRP which amends the State's program for that municipal jurisdictional area. All three alternative sites are located within the New York State designated coastal area.

There are 44 policies under the CMP, which are discussed in relations to the Yonkers Site in Section 2.5.1 of the Application.

2.5.2 Waterfront Revitalization of Coastal Areas and Inland Waterways

Article 42 of the Executive Law entitled: Waterfront Revitalization of Coastal Areas and Inland Waterways requires that any State or local action shall only be undertaken following an assessment of the consistency of that activity with the policies and purposes of the State CMP, as it may be expressed in an approved LWRP. Local municipalities that encompass coastal areas and that border adjacent inland waterways are encouraged to prepare LWRPs, in conjunction with NYSDOS, for the preservation, enhancement, protection, development, and use of the state's coastal and inland waterways and waterfront areas. Under the statute, LWRPs shall be reviewed and approved by the NYSDOS before they become effective. Projects which may impact coastal areas or inland waterways must be reviewed for consistency with all of the LWRPs that have been prepared. The NYSDOS has developed 44 policies to be implemented by LWRPs. In addition, several LWRPs have amended the policies and added new policies to protect natural resources unique to their specific areas. Project sponsors must review these policies to ensure that their project is consistent with the policies in the LWRP and will balance the need between natural resources, population growth, and economic development.

The City of Yonkers has not adopted a LWRP. The recent re-zoning of the Downtown Development District resulted in a zoning conflict for the portion of the project site that is now within the D-MX Downtown Mixed Use district, as discussed above.

New York City's LWRP policies have been reviewed and it has been determined that both alternatives would be consistent with the applicable.

Policy 1 - Support and facilitate commercial and residential redevelopment in areas well-suited to such development.

The Harlem River Yard and Luyster Creek converter station sites are consistent with existing zoning and will not affect commercial or residential development in the area.

Policy 2 - Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.

The converter stations will not interfere with the LWRP's goal of fostering the continuation of water-dependent uses.

Policy 3 - Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.

The transmission system will not interfere with the LWRP's goal of promoting use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers, as the cables will be buried.

Policy 4 - Protect and restore the quality and function of ecological systems within the New York City coastal area.

The underwater and underground transmission cable will not affect the quality and function of ecological systems within the New York City coastal area. Tidal wetlands have been mapped along the Harlem River, East River, and Luyster Creek. These resource areas are avoided to the extent feasible through the use of HDD construction methods for all landfall locations.

The two NYC converter station alternatives will also not affect any other initiatives to restore quality and function of ecological systems within the designated New York City coastal area. For example, the New York-New Jersey Harbor Estuary Program ("HEP") released its revised Action Plan in 2011². The Action Plan centers on 1) cleaning up pollution in the estuary, 2) habitat and ecological health, 3) improving public access, 4) supporting an economically and ecologically viable estuary, and 5) public education and community involvement. Neither the siting nor operation of the two converter station alternatives would interfere with the goals laid out in this document.

Policy 5 - Protect and improve water quality in the New York City coastal area.

For both sites, the Applicants will develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for control of construction stormwater and will implement appropriate spill control, prevention, and mitigation in order to ensure protection of water quality in the New York City area.

Policy 6 - Minimize loss of life, structures, and natural resources caused by flooding and erosion.

The converter stations will not alter the riverbed elevation and will have no effect on flooding characteristics of the river. Portions of the Harlem River Yard Site and Luyster Creek Site properties are located within mapped Flood Hazard Areas. Any facilities sited within the areas of mapped Flood Hazard will be designed to avoid flood hazard damage on the site or at any other properties.

Policy 7 - Minimize environmental degradation from solid waste and hazardous substances.

Any solid waste or hazardous substance associated with construction or operation of the converter stations will be used, stored, and disposed of in accordance with local, state, and federal requirements. The Applicants implement appropriate spill control and clean-up in order to minimize environmental degradation from accidental spills of fuel, oil or other hazardous materials that may be used during construction.

Policy 8 - Provide public access to and along New York City's coastal waters.

The cable configuration to the two alternative sites will be underwater or underground and will not interfere with the LWRP's goal of providing public access to and along New York City's coastal waters.

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² NY-NJ Harbor Estuary Program. http://www.harborestuary.org/actionplan.htm. Accessed June 1, 2011.

Construction and operation of the Harlem River Yard Site and Luyster Creek Site and interconnection work are located on industrial sites that are generally not accessible for recreational uses. The South Bronx Greenway Plan provides for increased access to waterfront areas. Projects include a proposed pedestrian greenway along the Harlem River and the Stony Point Overlook, and construction of the Randall's Island Connector, a quarter-mile pedestrian pathway from 132nd St to Randall's Island, which would be located underneath the historic arches of the elevated Amtrak trestle east of the Harlem River Yard converter site. The Harlem River Yard Site's converter station and the cables for both alternatives will be designed, installed, and operated so as to not interfere with the South Bronx Greenway or any planned recreational access improvements.

The City of New York's Vision 2020 document (NYCDCP 2011) presents policy goals related to City's 520 miles of shoreline. Proposed projects including increased public access to Luyster Creek from 19th Avenue. Facility layout and security features will be designed to not conflict with any New York City plans for limited public access to this waterway at the site. The converter stations will not interfere with public access to the coastal waters.

Policy 9 - Protect scenic resources that contribute to the visual quality of the New York City coastal area.

The transmission cables in New York City will be buried underground or underwater and therefore will not be visible. The converter stations would be designed to match the character of the surrounding area, which includes utility systems, and is not expected to have an adverse impact on any scenic resources. There are no designated Visual Corridors affected by the either of these alternatives.

Policy 10 - Protect, preserve, and enhance resources significant to the historical, archaeological, and cultural legacy of the New York City coastal area.

The Applicants will minimize any impacts to any underwater historical, archeological, and cultural resources along the underwater portions of the transmission cable route. No significant cultural resources are known to exist at either the Yonkers Site or Harlem River Yard Site. The Luyster Creek Site is on a property that has been identified by the State Historic Preservation Office as containing potentially significant cultural deposits associated with the historic operation of the Astoria Gas Works. Site assessments by a qualified cultural resources professional would need to be completed at all of the sites.

According to the New York State Historic Preservation Office's Public Access GIS website³, both NYC alternatives are located within archeologically sensitive areas. For the Harlem River Yard Site, the closest National or State Register site is St. Ann's Church Complex (90NR00036) at 295 St. Ann's Avenue in the Bronx. As this site is approximately 2,000 feet from the proposed converter station's property line and visually separated by multiple buildings and roadways, there should be no impact on the historic or cultural significance of this Register site.

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³ New York State Historic Preservation Office. http://www.oprhp.state.ny.us/nr/main.asp. Accessed June 2, 2011.

The nearest National or State Register site for the Luyster Creek Site is the Steinway House (90NR01587) located at 18-22 41st Street in Queens. As this site is approximately 1,600 feet from the proposed converter station's property line and separated by multiple industrial buildings and roadways, there should be no impact on the historic or cultural significance of this Register site.

2.6 Analysis

The installation and operation of a converter station at the Yonkers Site is not fully consistent with recently adopted zoning requirements, land use plans and policies. Some residents have questioned whether the converter station represents the "best use" of the land. The installation of the converter station would displace the parking lot currently being used by the City Board of Education. Downtown redevelopment projects have focused on enhancing residential and commercial use. There are also concerns about construction impacts on nearby uses.⁴

Another issue for this site is related to transportation. The train platforms in Yonkers may place constraints on the dimensions of equipment and materials that can be shipped into the community. In addition, the road network is not designed for oversized loads so transportation planning may be complicated in and around the site. The Applicants do not believe that these issues would present themselves at the other two alternative sites, due to the presence of industrial grade road, railways, and shipping facilities in the vicinity.

The Harlem River Yard Site is zoned appropriately for the converter station but is slated for an intermodal transportation center. Applicants have prepared a conceptual layout for how the converter station could be installed on the property while allowing for development of rail use (Figure 1-4). The NYSDOT reviewed this proposal, but ultimately concluded that the property should be maintained for future rail development as the east of the Hudson River markets and the Bronx specifically suffered from a lack of rail terminals. As the NYSDOT is the owner of the property, the site is not available to Applicants at this time.

The Luyster Creek Site would be located on a portion of a parcel which has been utilized for utility-related land uses for a considerable period of time. There have been no land use conflicts raised in relation to this site.

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⁴ While not legally binding on any determination made by the Commission in this proceeding, the policy provisions of the State Smart Growth Public Infrastructure Policy Act (Title 6, NYS ECL) encourage downtown revitalization, coordination between state and local government and regional planning efforts, promotion of sustainability and strengthening existing communities. The goals and intent of the Downtown Yonkers Zoning amendment include promoting uses that "activate the street-level environment" and that "create a concentration of pedestrian-oriented commercial uses." The development of the Yonkers converter station site does not advance these stated planning and policy goals

3.0 GEOLOGY, TOPOGRAPHY, AND SOILS

This section provides an overview of the geologic setting for the Project within New York State and specifically describes the existing surficial geology, topography and soils present at the three sites.

All three sites are located along the border of the Hudson Valley section of the Valley and Ridge province and the Embayed section of the Coastal Plain province. As such, the surficial and bedrock geology is similar at each site, as is the seismic hazard. The topography at the three sites is generally flat to gently sloping.

3.1 Yonkers Site

There are no known soils issues associated with this site. However, there is a history of industrial development in the area and as such there may be issues which have not been identified at this time.

3.2 Harlem River Yard Site

Previous work at this site had revealed the presence of abandoned underground tanks, lead, and other metals, polyaromatic hydrocarbons (PAHs) related to coal and ash, and asbestos in abandoned on-site buildings⁵. However, as there was no indication that groundwater was affected by the on-site contaminants, the remediation plan approved by the New York State Department of Environmental Conservation ("NYSDEC") focused on the control of airborne migration of contaminants through covering the site with controlled fill, topsoil, or pavement.

3.3 Luyster Creek Site

Historically, potions of the site were occupied by the Astoria Gas Works, a manufactured gas plant that began operations in 1906. By 1912, the Astoria Gas Works had grown to be the largest manufactured gas plant in the world. Manufactured gas production ended in Astoria in the 1960s, and the site was later converted to a sintering plant used to process fly ash generated by coal-burning power plants that had replaced the site's manufactured gas facilities. Fly ash processing at the site continued until 1972, when the process was phased out due to environmental restrictions. Based on the historical use of the property, NYSDEC has required a site investigation to determine the extent of contaminated soils and/or groundwater.

3.4 Analysis

Due to historic developments in and around each of the alternative locations, all three sites have the potential to require remediation of contaminated soils

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⁵ http://www.pollutiononline.com/article.mvc/Environmental-cleanup-of-abandoned-NY-railroa-0001

4.0 PHYSICAL AND CHEMICAL CHARACTERISTICS OF MAJOR AQUATIC SYSTEMS

Section 4.6 of the Application provides a summary of historic data for water quality, bathymetry, and sediment physical and chemical characteristics along the proposed cable route. Attachment P of the Supplement provides the Aquatic and Sediment Sampling plans while Attachment E provides the results of a marine route survey completed in the Spring of 2010. This survey collected route specific bathymetric, side scan sonar, sediment type, and quality data, as well as sub-bottom profiling data.

4.1 HVAC Cable Installation

The utilization of the Yonkers Site would require installation of approximately 11 miles of double circuit HVAC cables through the Hudson and Harlem Rivers. Each circuit consists of three cables and they would be buried within two trenches that are separated by a distance of 33 feet. As a result, in any location where burial was not possible (due to existing infrastructure or natural barriers), the area of protective cable systems, including concrete mattresses, would effectively be doubled for the Yonkers alternative as compared to the other two.

In contrast, the Harlem River Yard and the Luyster Creek sites would not require any in-water installation of HVAC cables and so only two HVDC cables in a single trench would be required from to the Bronx and Astoria for these two sites, and the landfall at Yonkers would be avoided.

4.2 Potential Impacts and Mitigation

No permanent or long-term impacts on water or sediment quality from cable installation are expected. Based on water quality modeling, cable installation activities would not exceed water quality standards. However, the overall impact is reduced for the Harlem River Yard and Luyster Creek sites as compared to the Yonkers Site due to the reduction in the number of cables that need to be installed.

5.0 VISUAL AND AESTHETIC RESOURCES

This section includes a preliminary assessment of the visual and aesthetic resources within a 0.25-mile study area of the proposed converter station locations.

5.1 Yonkers Site

Section 4.11 of the Application provides a preliminary assessment of the visual and aesthetic resources within a 0.25-mile study area of the proposed aboveground HVDC converter station located in Yonkers, New York. A complete Visual Assessment report is provided in Attachment C of the Supplement. The Visual Assessment concluded that the site was consistent with applicable standards. The adoption of amendments in 2011 to the Yonkers Zoning Code, subsequent to development of that Visual Assessment, introduces additional architectural design requirements which would be applicable to design and finish of the facility façade.

5.2 Harlem River Yard Site

Field work has not been completed at this site. The site is located within an area zoned for heavy industrial use and available aerial photography indicates that there is significant infrastructure in the area. The site is visible from the open areas at the Randall's Island Park located a short distance south of the site, across the Bronx Kill.

5.3 Luyster Creek Site

A visual assessment for the Luyster Creek Site was completed in June of 2011. The land use in the vicinity of the proposed converter station is largely transportation and utilities in a highly urbanized area. The viewscape in the immediate vicinity of the converter station site is comprised of industrial complexes, including generating facilities, oil storage tanks, large parking lots, and electric switchyards. Because of restricted access to the larger Con Edison property and existing vegetation, there were few locations where the proposed converter station site will be directly visible from areas accessible by the general public. The proposed facility will not be out of character with existing land use, will not redefine the nature of the view in context, and no new types of visual elements will be introduced into the landscape beyond what already exists in the area.

5.4 Analysis

As of this date, a Visual Assessment has only been completed for the Yonkers Site and Luyster Creek Site, which determined these locations were consistent with applicable standards. However, given the known land uses and visual character of the Harlem River Yard Site, it is reasonable to assume that the converter station would also be consistent with applicable standards at this location.

6.0 NOISE

This section includes a preliminary assessment of the noise impacts associated with each of the proposed converter station locations.

6.1 Applicable Noise Standards

Noise is regulated primarily through local zoning regulations, which differ from community to community, as well as state requirements. These regulations usually address maximum noise levels allowed at adjacent property lines during different times of day for different planning zones. Federal standards and guidelines regarding allowing noise levels include the United States Occupational Health and Safety Administration's (OSHA) regulations that describe limits for noise exposure to protect worker health and safety, and the USEPA's Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (USEPA 1978).

6.1.1 New York State Guidelines

The NYSDEC has issued a program guidance document entitled *Assessing and Mitigating Noise Impacts* (NYSDEC 2000). This guidance, which is premised on state statutory authority, has been utilized as a standard for evaluating potential noise impacts from numerous projects throughout New York. The guidance recommends that, to avoid impacts, the A-weighted Sound Pressure Level (SPL) should not exceed ambient noise levels by more than 6 dBA at noise-sensitive receptors, and the addition of any noise source in a non-industrial setting should not raise the total future ambient noise level above a maximum of 65 dBA. Noise levels in industrial or commercial areas should not exceed 79 dBA.

Although the 6 dBA increase is to be used as a general guideline, the NYSDEC guidance states that other factors should also be considered. For example, in settings with very low ambient sound levels, a greater increase in sound may be acceptable.

6.1.2 City of Yonkers Noise Ordinance

Chapter 66 of the City of Yonkers Code establishes construction and operational noise standards for development within the City of Yonkers. Stationary noise sources in continuing, routine operation in commercial or industrial areas must limit their noise generation levels to 70 dBA during the day and 50 dBA at night as measured at the property line of any residential property. Since the converter station will be in continuous, 24-hour-per-day operation, it must meet the 50 dBA limit.

Construction noise is limited to between 7 a.m. and 6 p.m. on weekdays, with no maximum decibel limit noted. No construction is permitted on weekends or legal holidays. All construction equipment must be equipped with appropriate sound-muffling devices.

6.1.3 New York City Noise Code

Both the Harlem River Yard Site and Luyster Creek Site would be subject to the New York City Noise Code (see New York City Noise Code § 24-232), which was revised in December 2005 and went into effect in July 2007. Under the New York City Noise Code, construction activity is limited to weekdays between 7 a.m. and 6 p.m. The code also contains sound level standards for various sources of ambient noise and construction noise, and prohibits unnecessary noise near hospitals, schools, and courthouses.

The sound level standards limit noise levels as they would be measured in the interior of buildings, not outdoors. The applicable limits for the interior of residential structures are provided below.

NYC Noise Code - Maximum Noise Level (dB) Inside Receiving Room									
Duilding Type			C	Octave Band Frequency (Hz)					
Building Type	31.5	63	125	250	500	1000	2000	4000	8000
Mixed-use & Residential	70	61	53	46	40	36	34	33	32

6.1.4 New York City Zoning Resolution

The Harlem River Yard and Luyster Creek sites would also need to be in compliance with Section 42-21 of the New York City Zoning Resolution, which sets maximum permissible noise levels from any on-site activity according to octave band (see New York City Zoning Resolution § 42-21 (1999)). Noise is defined as the sound pressure level (SPL) resulting from any open or enclosed activity. Both sites are located in a Heavy Manufacturing District (M3-1) and so the decibel level limits which may not be exceeded at any point on any lot line, according to land use, are presented below. Note that the standard presents octave band ranges, which are now obsolete. The current octave band center frequencies corresponding to the ranges are provided.

NYC ZONING RESOLUTION NOISE STANDARD (DB)							
Octave Band Range (Hz)(Obsolete)	Octave Band Center Frequency (Hz)	Limits for M-3 District	Limits for M-3 District Adjoining a Residential District				
20 to 75	63	80	74				
75 to 150	125	75	69				
150 to 300	250	70	64				
300 to 600	500	64	58				
600 to 1,200	1000	58	52				
1,200 to 2,400	2000	53	47				
2,400 to 4,800	4000	49	43				
Above 4,800	8000	46	40				
Source: New York City, City Planning Commission and City Planning Department (1998, Sections 42-213 and 42-214).							

6.2 Yonkers Site

Section 4.12 of the Application provides a preliminary discussion of noise issues and a complete Noise Assessment report for the Yonkers Site is provided in Attachment D of the Supplement (Exhibit 30 to the Joint Proposal). Continuous 24-hour monitoring indicated that the dominant noise source in the area was traffic on both Wells Avenue and River Street, but noise was also generated by planes flying overhead and periodic passing trains on tracks located approximately 100 feet from the meter. The Leq noise levels at the site showed wide swings at all hours of day consistent with the nearby passage of cars and trains. Minimum Leq levels ranged from 45 dBA to 50 dBA late at night, with values briefly dropping below 45 dBA on the early morning of one day. The minimum measured one-hour nighttime Leq noise level was 45.9 dBA.

Computer modeling was utilized to estimate noise levels that would be experienced at nearby residential and industrial areas due to operation of the proposed converter station. The commercially available CadnaA model developed by DataKustik GmBH was used for this analysis. The noise levels associated with the Yonkers Site converter station were predicted to be below 50 dBA at all residential locations. These levels are in compliance with the Yonkers noise ordinance limit for nighttime hours at residential uses. Increases over existing minimum ambient levels were shown to be less than one dBA at all locations.

6.3 Harlem River Yard Site

The site is located within an area zoned for heavy industrial use and available aerial photography indicates that there is significant infrastructure in the area. Potential ambient noise sources include the adjoining CSX railroad, traffic along the Robert F. Kennedy Bridge, and traffic to nearby industrial and commercial locations. In terms of sensitive receptors, there may be residences within a neighborhood zoned for mixed use located approximately 700 feet to the north of the property boundary. The Randall's Island Park is located a short distance south of the site across the Bronx Kill.

Field work has not been completed by the Applicants at this site. However, the New York City Department of Sanitation completed a Final Environmental Impact Statement on the parcel immediately adjacent to the west as part of its Comprehensive Solid Waste Management Plan (NYCDS 2005). This study found that the quietest hours were from 3 am to 5am with an Leq of 57 dBA, indicating that the neighboring sites experience elevated noise levels throughout the day.

6.4 Luyster Creek Site

The area in the vicinity of the proposed converter station includes a combination of industrial, commercial, and residential land uses. In addition to the noise associated with the operations of Con Edison and other utilities in and around the property, street noises can be heard along 20th Avenue. Aircraft from LaGuardia Airport follow a take-off flight path over the proposed converter station site. A Noise Assessment for this site was completed in June of 2011 and is included as Exhibit 107 to the Joint Proposal. Short-term monitoring was conducted during the

day and repeated late at night (1:00 am through 2:30 am). Measured nighttime Leq levels were 47.7 dBA to 52.6 dBA.

As with the Yonkers Site, the CadnaA model was used to estimate noise levels that would be experienced at nearby residential and industrial areas due to operation of the proposed converter station. The modeling date demonstrated that the estimate Project noise at this site would be in compliance with the New York City Zoning Resolution for industrial and residential property lines, the New York City Noise Code, and the NYSDEC Noise Policy. A pure tone analysis was also completed, with the model indicating that pure tone noises associated with the Project's operation are not anticipated.

6.5 Analysis

All three sites are located on properties in urban areas with varying degrees of development. The noise assessments completed for the Yonkers Site and Luyster Creek Site indicated that the installation and operation of the converter station would be in compliance with applicable standards. Given that the Harlem River Yard Site is located in an area zoned for industrial use, it is reasonable to believe this site would be in compliance as well although no field work has been completed at this time.

7.0 OTHER RESOURCES

7.1 Vegetation and Natural Communities

All three sites are located on properties in urban areas with varying degrees of development and will have the similar ecological communities (Edinger 2002). The impacts on vegetation and natural communities associated with development of these three sites should be equivalent or nearly so.

7.2 Wetlands and Water Resources

All three sites are located on properties in urban areas with varying degrees of development. There are no known wetlands at any of the three sites, although field work has not been completed at the Harlem River Yard Site or Luyster Creek Site. Tidal and estuarine wetlands Tidal wetlands have been mapped to the west of the Yonkers Site along the Hudson River. For the Harlem River Yard, tidal wetlands are east along the Bronx Kill and south along the East River. At the Luyster Creek Site, tidal wetlands are found along the portions of the Con Ed property that border the East River and Luyster Creek. These resource areas are avoided to the extent feasible through the use of HDD construction methods for all landfall locations. The impacts on wetlands and water resources associated with development of these three sites should be equivalent or nearly so.

7.3 Fisheries

As with aquatic systems (Section 4), the difference between the three sites will be that the Yonkers Site requires an additional landfall, and the installation of approximately 11 miles of double circuit HVAC cables through the Hudson and Harlem Rivers. Each HVAC circuit consists of three cables, and the two circuit facility would require installation within separate trenches. In contrast, the Harlem River Yard site would reduce the number of cables to be installed between Yonkers and the Bronx from six cables in two trenches to two cables in a single trench, while the Luyster Creek site would require only two cables in a single trench from the vicinity of Yonkers to the site at Astoria.

7.4 Wildlife

All three sites are located on properties in urban areas with varying degrees of development. The impacts on wildlife associated with development of these three sites should be equivalent or nearly so.

7.5 Threatened and Endangered Species

All three sites are located on properties in urban areas with varying degrees of development. Based on a review of NYSDEC (NYSDEC 2009) and U.S. Fish and Wildlife Service (USFWS 2010) databases, no potential threatened or endangered, candidate and special concern species occurrence records are likely to be found on any of the three sites. The impacts on threatened or

endangered species associated with development of these three sites should be equivalent or nearly so.

7.6 Historic and Archaeological Resources

Section 4.10 of the Application, as well as Appendix E to the Application, discuss historic and archaeological resources within the Project's vicinity. The "Hudson River Western Rail Line Route" and the "Hell Gate Bypass Route and Bronx Converter Station Site" alternatives were not presented to the Applicants until October 27, 2010 (and two alternatives to installation within southern Lake Champlain under discussion in this document) came at a later point in the settlement process. Therefore, no field work has been completed in the evaluation of these resources.

All three sites are located on properties in urban areas with varying degrees of historic uses. Ground-disturbing activities at these locations have the potential to adversely affect the integrity of archaeological resources at the site, should any exist. The Luyster Creek Site is on a property that has been identified by the State Historic Preservation Office as an archaeologically sensitive area that may contain potentially significant cultural deposits associated with the historic operation of the Astoria Gas Works. All three sites will require either pre-installation field surveys or construction monitoring by a qualified cultural resource professional.

7.7 Public Health

Previous modeling demonstrated that electro-magnetic fields associated with the HVDC and HVAC cables for the Yonkers Site would be compliant with existing state standards (see Supplement, Attachment M). As the Harlem River Yard Site would significantly reduce the need to bury HVAC cables in the water and greatly reduce the overall length of HVAC cables, and the Luyster Creek Site would not require any underwater HVAC cables, it is reasonable to assume that these sites would be in compliance as well.

8.0 CONCLUSIONS

The Applicants were asked to evaluate three potential converter station locations in Yonkers, the Bronx, and Astoria. All three sites are located in developed areas and would be similar in terms of their overall construction. As would be expected given these similarities, there do not appear to be any significant differences between these three sites in terms of impacts on vegetation, wetlands, wildlife, cultural resources, visual resources, noise levels, and public health.

All three sites have long histories of development. As such, contaminated soils are a known concern at the Harlem River Yard Site and Luyster Creek Site. The Applicants are not aware of any field investigations that have been completed at the Yonkers Site and the property is currently used as a parking lot. However, it is likely that some level of contamination also exists at this site given its history of development.

While the Harlem River Yard Site is zoned appropriately for the converter station, the NYSDOT owns the property and has determined that it should be preserved intact for future rail development. As a result, this site is not available to the Applicants at this time. For the Yonkers Site and Luyster Creek Site, the primary differences are the in-water cable requirements and existing land use plans. The utilization of the Yonkers Site would require installation of approximately 11 miles of double circuit HVAC cables through the Hudson and Harlem Rivers, installed in two trenches with a separation distance of 33 feet. In contrast, the Luyster Creek site does not require any in-water installation of HVAC cables and so only two HVDC cables in a single trench would be required to the Astoria site. While there are no long-term impacts anticipated with the in-water HVAC cables, the selection of the Luyster Creek Site would reduce the temporary impacts associated with the Project.

More significantly, there are concerns over whether the installation and operation of a converter station at either the Yonkers Site represents the "best use" of this land. While a converter station at the Yonkers Site would be generally consistent with existing land use, it would displace existing parking for public offices and stakeholders have focused on the potential for redeveloping the downtown area of Yonkers for a variety of urban uses. Moreover, the City of Yonkers recently revised the zoning code for the downtown area, and that code now may prohibit the construction of a converter station on part of the site, requiring a waiver of this local law by the Commission. There may also be issues related to transporting equipment and materials to the site. In contrast, the Luyster Creek Site would be located on a portion of a privately owned parcel which has been utilized for utility-related land uses for a considerable period of time. The site is separated from pedestrian traffic by security fencing and ambient noise levels are generally higher than those reported at the Yonkers Site. In addition, existing information suggests that the Luyster Creek Site would not displace any existing land uses.

The Applicants believe that each of these sites would be suitable locations for the converter station associated with the Project. However, there is support for the view that the overall environmental impacts may be reduced with the selection of the Luyster Creek site and the operation of a converter station would be most consistent with the known and planned uses of the Luyster Creek Site, particularly as the Applicants cannot use the Harlem River Yard Site without NYSDOT's consent.

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